CHAPTER 3.1
Land Use and Agriculture

This Chapter discusses the existing environment of the Shasta River watershed (**Figure 3.1-1**) (Program Area) with regards to land use and agriculture; identifies potential impacts the Shasta River Watershed-wide Permitting Program (Program) could have on those resources; and identifies mitigation measures for those impacts determined to be potentially significant. This evaluation is based on field reconnaissance, review of local land use information, adopted land use plans and policies, agricultural datasets from the Department of Conservation (DOC) and the Department of Water Resources (DWR), aerial photographs, and other sources.

3.1.1 Setting

Regional Agricultural Setting

Siskiyou County Socio-demographics and Economy

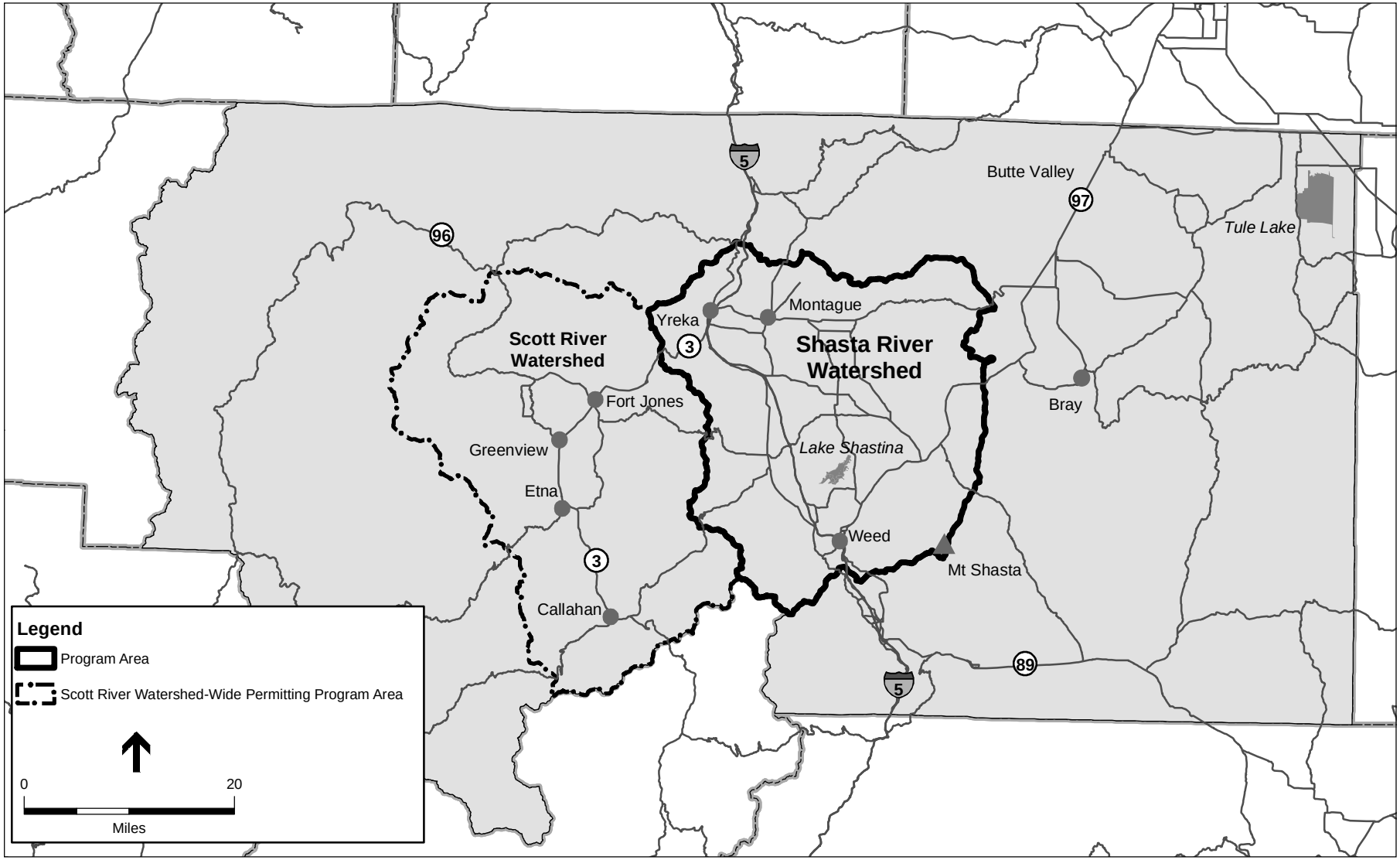
Population

Siskiyou County's total population in 2006 was estimated to be approximately 46,100. Over the last two decades, there has been little change to the County's population with a relatively low population growth rate of 0.6 percent per year on average (EDD, 2006). In recent years, the rate of population growth has declined.[1] Between 2000 and 2005, the County annual population growth has been just over 0.4 percent per year – a rate about a third of California's statewide average annual growth rate (U.S. Census, 2006).

Projections for Siskiyou County's population differ. The California Department of Finance estimates that the County's total population will remain nearly unchanged with 45,900 residents expected in 2020 (EDD, 2006). The California Department of Transportation's (Caltrans) 2006-2030 Economic Forecast, however, projects that there will be 50,175 Siskiyou County residents in 2020 (Caltrans, 2006).[2]

[1] Population growth is defined as the increase in the number of people who inhabit an area or region. Population growth rate is defined as the rate at which the population is increasing or decreasing in a given year expressed as a percentage of the base population size. It takes into consideration all the components of population growth, namely births, deaths, and migration.

[2] As a transportation planning agency, Caltrans' analysis and projections might be expected to be more aggressive in anticipating the region's future growth. Its projections appear to differ most in their future net migration changes and in new housing units for the County.



SOURCE: ESRI, 2006; ESA 2007

Shasta River Watershed-Wide Permitting Program . 206063

Figure 3.1-1

Regional Setting - Siskiyou County

Demographic analysis suggests that past and current demographic shifts toward a "graying" of Siskiyou County's population will continue.[3,4] Forty-two percent of the County's population is over 50, with 17 percent of the population being composed of 50-59 year olds and another 25 percent being 60 and over. Since 1990, the number of adults between the ages of 50-59 increased seven percent, while adults ages 30-39 decreased eight percent, and children ages 0-9 decreased five percent.

Siskiyou County's natural population growth rate[5] is expected to remain negative for the foreseeable future as its younger residents are expected to continue leaving the area due to the limited job opportunities available locally. This demographic shift tends to reduce the number of children born and raised in the area. In contrast, population growth for the area is expected from a continuing influx of older and higher income new residents attracted to the area's rural lifestyle and comparatively inexpensive housing (Caltrans, 2006).

Employment

Siskiyou County's total employment was estimated to be 13,600 in 2005.[6] The major employers within Siskiyou County are Government (28.5 percent), the Trade, Transportation and Utilities sector (18.2 percent), Leisure and Hospitality industry (13.4 percent), and Education and Health Services sectors (12.2 percent). The Agriculture sector provides approximate 5.1 percent of the employment within Siskiyou County (EDD, 2006). Since 1998, Siskiyou County's agriculture and manufacturing industries have suffered substantial job losses countywide. The County's agricultural sector lost 420 jobs (nearly a 35 percent decrease) while its manufacturing businesses lost 260 jobs representing a 27 percent employment decrease (SCEDC, 2006). Between 1998 and 2002, most of the job growth within Siskiyou County occurred within the sectors of: financial activities; trade, transportation and utilities; and the leisure and hospitality industry (SCEDC, 2006).

In 2005, Siskiyou County's total available labor force was an estimated 18,810. The County's unemployment rate has consistently been substantially higher than the state average. After a recent peak unemployment rate of 9.5 percent in 2003 (when the statewide unemployment rate for California was 6.8 percent), the unemployment rate had decreased slightly to 8.9 percent in 2005 (EDD, 2006).

The most recent economic projections of Siskiyou County's future economy predict that its unemployment rate will remain significantly above the statewide rate and will average approximately 9.7 percent through 2030 (Caltrans, 2006).

[3] A "graying population" refers to a decline in the birth rate. With a decline in the number of young people within a community, this means that the proportion of older people in the population will rise (Poole and Wheelock, 2005).
[4] The U.S. Census defines an "older" population as ages 55+. The U.S. Census defines an "elderly" population as ages 65+ (U.S. Census, 2007).
[5] Natural population growth includes births and deaths, without taking into account net migration.
[6] Industrial employment does not include self-employed residents.

Income

The average income level for Siskiyou County residents is below the state average income level. In 2005, the per capita income of Siskiyou County residents averaged $25,730. This was approximately 75 percent of the per capita income of all California residents which averaged $34,264 (Caltrans, 2006). Siskiyou County residents' median household income was proportionately lower than the comparable statewide median household income level. In 2004, estimated median household income for County residents was $32,531 – approximately 65 percent of the corresponding statewide median income level of $49,894. On a related note, the proportion of the County's population in poverty is estimated to have been 15.1 percent in 2004 which was greater than the state average poverty rate of 13.2 percent (US Census, 2007).

The County's low personal income and related high unemployment levels are key indicators of an economically depressed area. The U.S. Department of Commerce's Economic Development Administration has recognized Siskiyou County as being in Long Term Economic Distress (SRWC, 2005). Similarly, the State of California's Enterprise Zone Program also established a major section of the Shasta Valley as a State Enterprise Zone (**Figure 3.1-2**).[7] The State Enterprise Zone Program targets 39 economically distressed areas throughout California. This designation helps provide and attract state and local incentives which both encourage business investments and promote new job creation (SCEDC, 2007).

Siskiyou County Agricultural Sector

Agricultural Sector Revenues

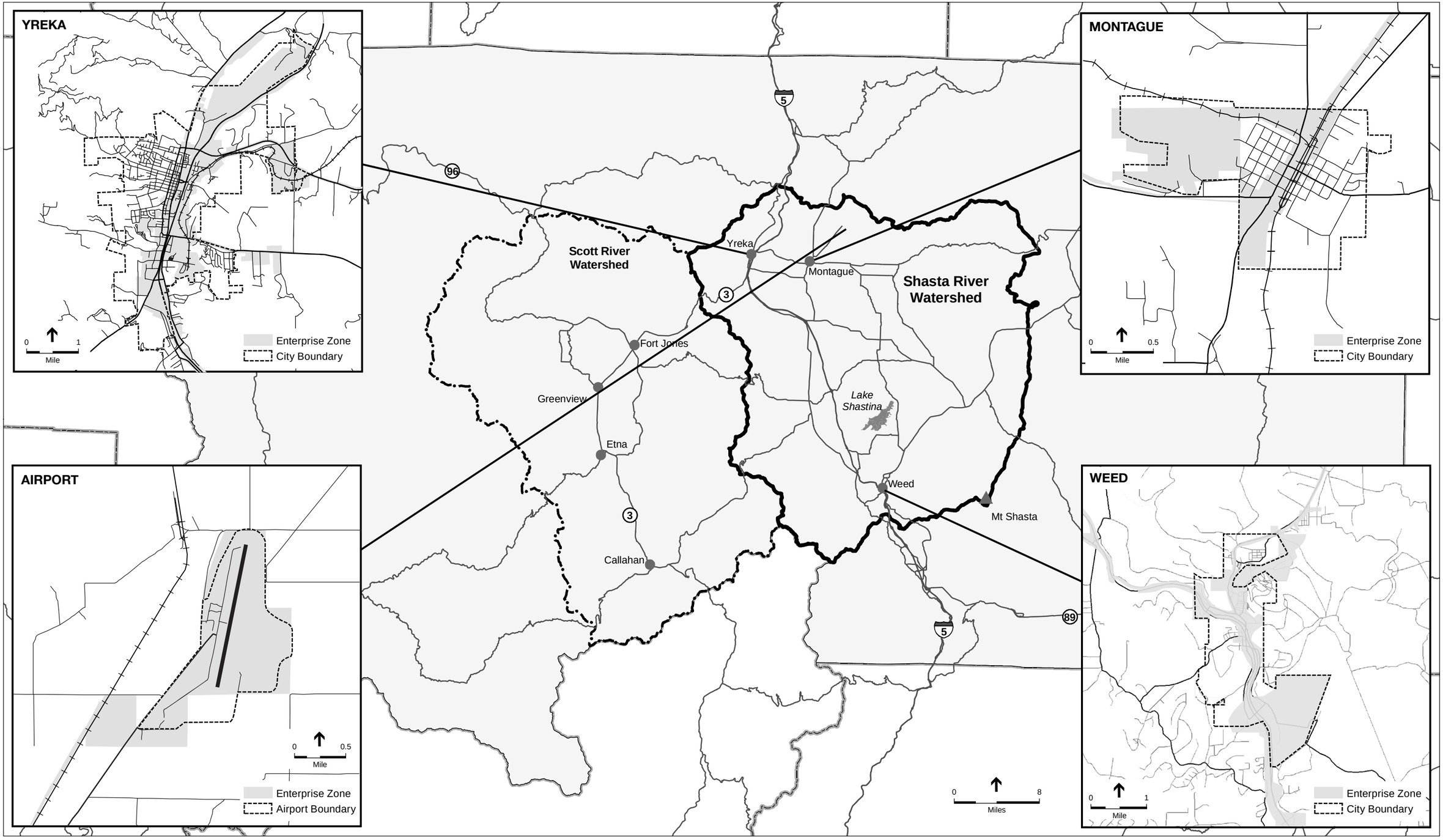
Siskiyou County depends on alfalfa hay production as one of its staple agricultural commodities, as well as Irish potatoes, wheat, nursery plants and livestock (CED, 2006). Various types of seed are sold for the highest prices per ton in the County, while hay and cattle bring in some of the highest total value (CED, 2006).

Field crop farming (consisting primarily of forage crops including pasture land, alfalfa, and other hays or grains for livestock feed) is the primary farming activity in Siskiyou County. In 2006, it yielded approximately $72.55 million worth of agricultural production. Combined with related livestock production activities, these two farming categories together generated approximately $95.15 million, which accounts for 56 percent of Siskiyou County's agricultural revenues.

Table 3.1-1 shows Siskiyou County's estimated value of agricultural production in 2005 and 2006 by major crop types (Siskiyou County Department of Agriculture, 2007). Excluding timber, agricultural activities generated $170 million last year (Siskiyou County, 2007).

Agricultural production affects many areas of a county's economy, including jobs, income and the economic input of related industries (CED, 2006). When agricultural production declines, so do purchases from local businesses (such as fuel, seed, and equipment). Recent analyses of the

[7] The Shasta Valley Enterprise Zone encompasses the City of Weed, the Siskiyou County Airport Industrial Park, as well as most of the commercial and industrial areas within the cities of Yreka and Montague.



SOURCE: ESA

Shasta River Watershed-Wide Permitting Program . D206063

Figure 3.1-2

Shasta Valley Enterprise Zone

TABLE 3.1-1
AGRICULTURAL PRODUCTION IN SISKIYOU COUNTY (2005 & 2006)

	2005 (in Millions [m] of Dollars)	Percentage	2006 (in Millions [m] of Dollars)	Percentage
Field Crops	$61.75 m	41.83%	$72.55 m	42.66%
Seed Crops	$1.55 m	1.05%	$1.13 m	0.66%
Livestock	$24.11 m	16.33%	$22.60 m	13.29%
Vegetable Crops	$11.84 m	8.02%	$11.92 m	7.01%
Milk and Wool	$4.42 m	2.99%	$2.82 m	1.66%
Nursery Crops	$40.46 m	27.41%	$54.83 m	32.24%
Organic	$3.50 m	2.37%	$4.20 m	2.47%
Timber	$47.57 m	~	$47.90 m	~
Total	$195.20 m	~	$217.95 m	~
Total (excluding Timber)	**$147.63 m**	**100%**	**$170.05 m**	**100%**

SOURCE: Siskiyou County Department of Agriculture (2006, 2007)

County's agricultural sector's future performance forecast a sustained decline for future farm crop values in real dollar terms (i.e., adjusting for inflation). A 14 percent decrease in real terms by 2015 is predicted for the County's future farm crop values (Caltrans, 2006).

Agricultural Employment in Siskiyou County

Employment is another key indicator of an industry sector's contribution to the greater economy. In 2006, total employment within Siskiyou County was estimated to be 22,306 of which the County's farm proprietors[8] employment was 779 (3.5%) and total farm employment[9] was 1,210 (5.4%) (BEA, 2008). Between 1998 and 2005 Siskiyou County's agricultural sector employment declined an estimated 35 percent (SCEDC, 2007).

Crop Production in Siskiyou County

While nursery and vegetable crops are another important component of the local agricultural sector, most of this production occurs primarily outside the Program Area. For example, nearly 2,000 acres of strawberry bedding plant production occurs in the Butte Valley and Tule Lake areas of the County, where the colder climate is well suited for growing young strawberry plants. This production, which accounts for most nursery crop sales, is shipped out of the County. Similarly, the majority of the County's vegetable crop acreage is potato farming that occurs primarily on leased lands in the Tule Lake Basin. These potato sales typically account for the

8 Farm self-employment is defined as the number of non-corporate farm operators, consisting of sole proprietors and partners. A farm is defined as an establishment that produces, or normally would be expected to produce, at least $1,000 worth of farm products—crops and livestock—in a typical year.

9 Farm employment is the number of workers engaged in the direct production of agricultural commodities, either livestock or crops; whether as a sole proprietor, partner, or hired laborer.

majority of Siskiyou County's vegetable crop revenues (Thornhill, 2007). Most of the potato production is for fresh market sales.

Siskiyou County's principal field crops, acreages, and yields are shown in **Table 3.1-2** below.[10] Alfalfa hay and irrigated pasture is farmed on nearly 130,000 acres County-wide, and together account for more than 75 percent of the County's field crop value. Nearly all of the alfalfa grown in Siskiyou County is grown under irrigation (Thornhill, 2007). Grain production within the County primarily occurs as part of the crop rotation for irrigated alfalfa which after six or seven years of harvesting is typically rotated out of production.

TABLE 3.1-2
FIELD CROP ACREAGES AND PRODUCTION VALUE IN SISKIYOU COUNTY (2006)

Field Crop Type	Harvested Acreage	Yield per Acre	Price / unit	Value
Alfalfa Hay	58,494 ac	5.5 / Ton	$135 / Ton	$43.43 m
Other Hay	12,928 ac	4.3 / Ton	$110 / Ton	$6.11 m
All Wheat	15,269 ac	2.45 / Ton	$130 / Ton	$5.231 m
Other Grains[a]	15,308 ac	1.0 – 2.3 / Ton	$110 - $120 / Ton	$8.69 m
Misc. Crops[b]	>1,156 ac	Na	Na	$1.79 m
Pasture (Irrigated)	75,000 ac	Na	$125 / ac	$9.38 m
Pasture (Non Irrigated)	145,000 ac	Na	$12 / ac	$1.74 m
Rangeland Pasture	445,000 ac	Na	$3 / ac	$1.34 m
Total – Field Crops	**767,055 ac**			**$72.55 m**

[a] Includes Oats, Barley and Rye production
[b] Includes Mint production and an unspecified acreage of stubble pasture, straw and silage.

SOURCE: Siskiyou County Department of Agriculture (2007)

Alfalfa and hay production within Siskiyou County is a primary agricultural activity both as a cash crop sold and transported out of the regions for livestock and for other animal feed. Siskiyou County alfalfa generally commands a premium price due to its typically higher nutrient content, which is a result of the local growing conditions. Although the amount of alfalfa and other feed crops that are sold out of the County is not known, local agricultural experts estimate that approximately 70 percent of the County's production is likely for cash sales (Thornhill, 2007).

Alfalfa and other animal feed crops are also important for local livestock farmers who rely on supplemental feed both for wintering of their herds and fattening of calves before they go to market. As Table 3.1-1 shows, livestock production within Siskiyou County generated revenues of approximately $22.6 million in 2006.

[10] Crop production acreages specific to the Program Area are discussed later in this chapter.

Livestock production within Siskiyou County is predominantly cow-calf operations. In 2006, there were approximately 62,000 head of cattle in the County. Of these, 1,800 were "dairy heifers on feed" and 1,000 were milk cows two years and over. Besides cattle livestock, there is sizable amount of horse ranching (13,000 head), and sheep rearing (4,600 head), but relatively little hog and pig raising (500 head) (Siskiyou County Department of Agriculture, 2007).

Ranching and Farming in Siskiyou County

In 2002, 796 farms were operating within Siskiyou County, which represented a 10 percent decrease from the 883 farms estimated to have been operating in 1997. During this same period, farmland acreage was estimated to have declined countywide by an estimated five percent from 639,819 acres to 610,388 in 2002 (USDA, 2002), and average farm size increased by six percent to 767 acres in 2002. However, due to the wide variance in the acreages of farms within the County, the median farm size reported for Siskiyou County falls within the U.S. Census category of 50 to 179 acres.

Approximately 60 of the farms reported that they were less than 10 acres in size while approximately 210 stated their farms were between 10 to 49 acres in size. Sixty-seven percent of these farms' principal operators reported that farming was their primary occupation. The average sales per farm in 2002 was approximately $137,000 per farm. The reported average net cash farm income was $29,747 while the average farm production expenses were $107,386 (USDA, 2002).

Recent cost studies for alfalfa farming and discussions with the U.C. Farm Advisor and Agricultural Inspector with the Siskiyou County Agriculture Commissioner's Office in Siskiyou County show the low profitability of existing local agricultural production (Orloff, 2007; Herman, 2007). The declining viability of small agricultural operations has also increasingly encouraged consolidation of many farmland properties into larger farm operations. In such cases, the farmsteads are often sold separately as residences with small acreages of adjoining farmland. Therefore, many of these properties might be better characterized as rural residential homes. The small farm acreages and incomes reported by the Census of Agriculture may also be reflective of landowners who lease out their farmlands to other local farmers (Orloff, 2007).

In the rural communities of Siskiyou County, many Agricultural Operators accept a very low rate of return on their equity investment in their properties and also take below market rate wages for their labor, management, and operating risk. Similarly, many own their land (either having inherited the land or having acquired it from relatives) and their land costs are minimal. Otherwise, the mortgage payments can be a major cost burden. Many Agricultural Operators may also rely on additional sources of income such as part-time work doing custom farming on other farm owners' lands or spousal income (Orloff, 2007).

Important Farmland in Siskiyou County

Important Farmland Maps produced by the DOC's Farmland Mapping and Monitoring Program (FMMP) quantify and characterize Siskiyou County's regional agricultural land base. Important Farmland Maps show categories of Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-up Land, Other Land,

and Water. Prime Farmland and Farmland of Statewide Importance Map categories are based on qualifying soil types, as determined by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS), as well as current land use. Map categories are defined by the FMMP as follows:

> **Prime Farmland:** Land which has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management, according to current farming methods.
>
> **Farmland of Statewide Importance:** Land that is similar to *Prime Farmland* but with minor shortcomings, such as greater slopes or less ability to hold and store moisture.
>
> **Unique Farmland:** Land of lesser quality soils used for the production of specific high economic value crops. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. It is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Examples of crops include oranges, olives, avocados, rice, grapes, and cut flowers.
>
> **Farmland of Local Importance:** Land of importance to the local agricultural economy, as determined by each county's board of supervisors and local advisory committees. Examples include dairies, dryland farming, aquaculture, and uncultivated areas with soils qualifying for *Prime Farmland* and *Farmland of Statewide Importance*.
>
> **Grazing Land:** Land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock.

Table 3.1-3 shows the acres of agricultural land within Siskiyou County inventoried by DOC under its FMMP program in 2002 and 2004.

Between 2002 and 2004, "important farmland" decreased by 26,047 acres countywide, which is equivalent to approximately a three percent decrease in farmland resources. Between 1996 and 2004, the acreage of "important farmland" decreased by 48,383 acres, which is equivalent to approximately a six percent decrease. During this period (1996-2004), the greatest proportional loss of farmland occurred to the County's prime farmland resources, which decreased by 13.6 percent from the loss of 12,551 acres (DOC, 2006). While these past trends of agricultural land reductions indicate existing land use conversion pressure on the Siskiyou County's agricultural sector, much of the converted acreage in Table 3.1-3 was characterized as being primarily due to wildlife refuge systems additions and documentation of grazing leases.

Regional Real Estate Trends

Demand for "rural residential" properties continues to grow throughout the North Intermountain Region (i.e., Lassen, Modoc, Shasta, and Siskiyou Counties) as a result of the general appreciation in residential real estate market (both from strong urban housing markets and recent low interest rates) and increasing interest among many retirees in rural living opportunities.

TABLE 3.1-3
FARMLAND CONVERSION FROM 2002–2004 IN SISKIYOU COUNTY

	Total Acres Inventoried		2002–2004 Acreage Changes		
Land Use Category	**2002**	**2004**	**Acres Lost**	**Acres Gained**	**Net Change**
Prime Farmland	93,046	79,822	-13,351[a,b]	127	-13,224
Farmland of Statewide Importance	31,525	28,747	-2,796[a]	18	-2,778
Unique Farmland	34,691	33,714	-1,143	166	-977
Farmland of Local Importance[c]	626,964	620,164	-8,757[a]	1,957	-6,800
Important Farmland	786,226	762,447	-26,047	2,268	-23,779
Grazing Land	393,253	386,315	-13,123[a]	6,185[b]	-6,938
Agricultural Land	**1,179,479**	**1,148,762**	**-39,170**	**8,453**	**-30,717**

[a] Conversion to Other Land is characterized by farmland left idle for three or more update cycles, primarily due to additions made to the refuge systems in the Lower Klamath and Tule Lake Wildlife Refuge, Butte Valley, and Shasta Valley Wildlife Area.
[b] Conversion to Grazing Land was reported primarily due to land left idle for three or more update cycles and documentation of grazing leases within the Lower Klamath Wildlife Refuge, Butte Valley Wildlife Area and Butte Valley Grasslands.
[c] Overall acreage change in this category showed a significant jump between the years of 1994 and 1996, from 64,532 to 658,134 respectively when the definition for the classification of land of local importance changed.

SOURCE: DOC (2006)

Currently, demand for rural ranchette properties in Siskiyou County and the Program Area is strongest for smaller agricultural properties typified by livestock farms within the lower hillside or upstream watershed areas rather than the larger alfalfa farming properties located within the more centrally located valley areas (Orloff, 2007).

This growing demand for rural residential real estate is resulting in upward price pressure that is influencing the upper end of the price range for all agricultural land categories. In recent years, land prices for smaller rural residential sites have almost doubled (ASFMRA, 2005). In addition, there are ongoing trends of farm consolidation in both the Shasta and Scott Valleys as some of the larger local farm operators increasingly purchase or lease agricultural properties of more marginal farm operators in the area for custom farming (Orloff, 2007). The amount of new sales and lease activity have been relatively stable except for rangeland and dry pasture properties where an increasing amount of new purchases and transactions are occurring (ASFMRA, 2005).

Siskiyou County Rural Residential Land Conversion Trends

Currently, the greatest amount of development in Siskiyou County is occurring in the southern part of the County, particularly in Mt. Shasta and McCloud, and around Lake Shastina in Shasta Valley (DePree, 2007). Most of the agricultural land conversion to residential use is occurring on properties within the areas of lower elevation along the Interstate 5 corridor and near Lake Shastina, although the majority of Lake Shastina development is on existing residential lots (DePree, 2007). Agricultural properties are being converted to rural residential uses especially among the smaller and lower hillside farm properties.

There was a record high of home building in Siskiyou County in 2005 (Diehm, 2007). In 2006, the rate of development slowed but was still much above historical averages. These numbers were attributed to Lake Shastina's building permit applications (117 in 2005, 52 in 2006). Mike Crawford, Chief Building Inspector of Siskiyou County, noted that if these numbers were removed, the County would be demonstrating its historic level of growth, rather than a building boom (Diehm, 2007; DePree, 2007).

While Siskiyou County has begun to see more developers take interest in large-scale subdivision projects in the Scott and Shasta Valleys, no applications have been submitted in either area (DePree, 2007). In the Program Area, the Siskiyou County General Plan contains development restrictions which prevent subdivision of prime agricultural lands (see Local Regulations, below). Minimum parcel size for prime agricultural lands is limited to 80 acres, while minimum parcel size for non-prime agricultural lands is 40 acres.

Shasta River Watershed

Important Farmland in the Shasta River Watershed

Table 3.1-4 shows the acres of agricultural land within Shasta River watershed. Only 2.3 percent of Shasta River watershed "Important Farmlands" lands are classified as Prime Farmland using FMMP criteria, while 89 percent are classified as Farmland of Local Importance. **Figure 3.1-3** shows the distribution of FMMP–classified "Important Farmlands" in the Shasta River watershed.

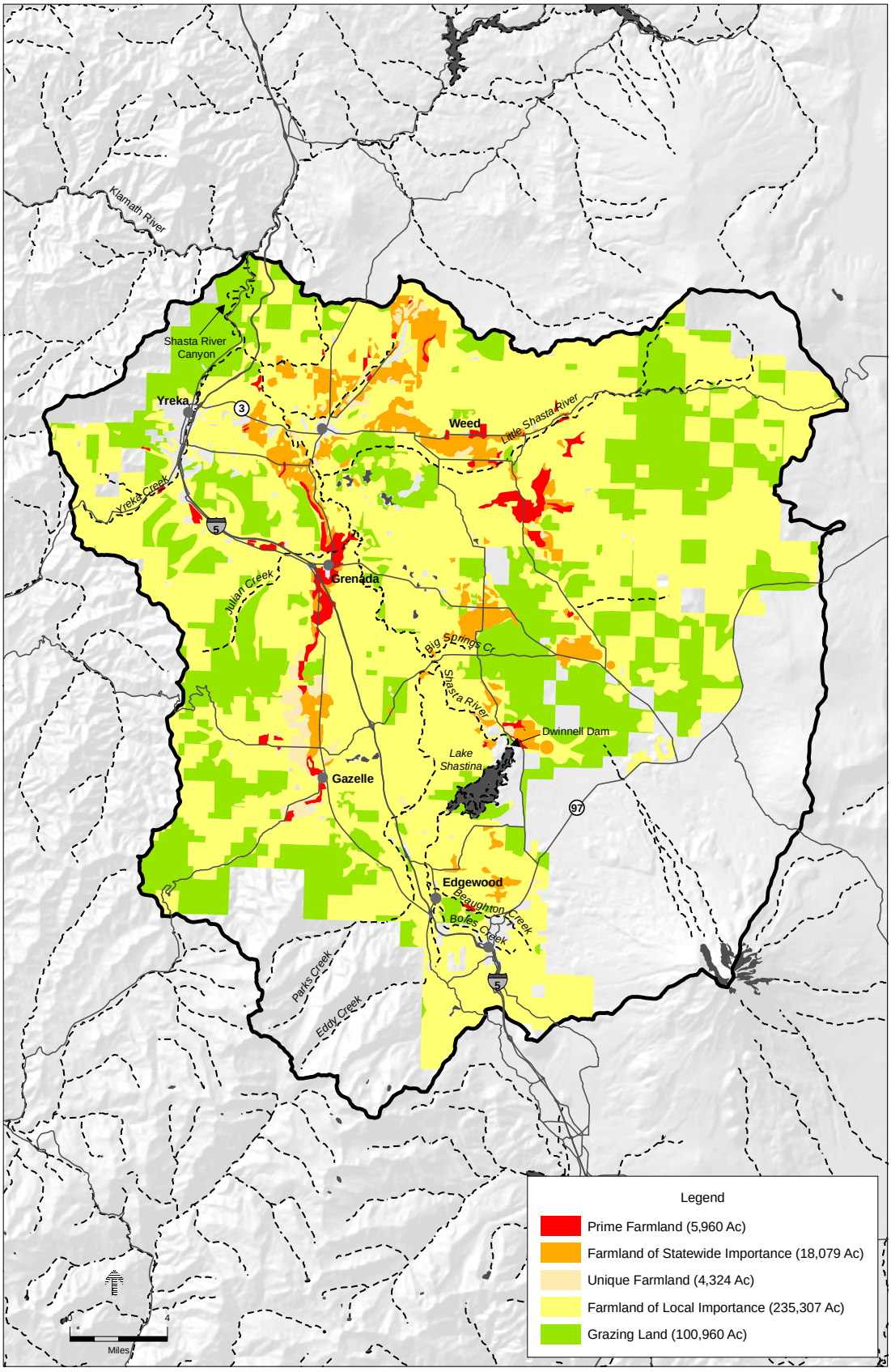
TABLE 3.1-4
CURRENT COMPOSITION OF IMPORTANT FARMLAND IN THE SHASTA RIVER WATERSHED

Land Use Category	Total Acres
Prime Farmland	5,960
Farmland of Statewide Importance	18,079
Unique Farmland	4,324
Farmland of Local importance	235,307
Important Farmland Subtotal	**263,670**
Grazing Land	100,960
Agricultural Land Subtotal	**364,630**

SOURCE: DOC (2003)

Williamson Act Farmland in the Shasta River Watershed

Williamson Act contracts are a tool used by local governments in California to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. The Act creates an arrangement whereby private landowners contract with counties and cities to voluntarily restrict land to agricultural and open space uses. Under the Williamson Act, an agricultural preserve must consist of no less than 100 acres, and any development on the



SOURCE: California Department of Conservation, 2003

Figure 3.1-3
Composition of Important Farmland
in the Shasta River Watershed

property must be related to the primary use of the land for agricultural purposes and be in compliance with local uniform rules or ordinances.[11] Williamson Act contracts are estimated to save agricultural landowners from 20 percent to 75 percent in property tax liability each year. Within the Program Area (see **Figure 3.1-4**), there are two categories of farmland under contract: Prime and Non-Prime (see **Table 3.1-5**).

> **Prime Williamson Act Farmland** is classified as land which is enrolled under California Land Conservation Act contract and meets any of several productivity criteria (as set forth in Government Code, § 51201).[12]
>
> **Non-Prime Williamson Act Farmland** is classified as land which is enrolled under California Land Conservation Act contract and does not meet any of the criteria for classification as Prime Agricultural Land. Non-Prime Land is defined as Open Space Land of Statewide Significance under the California Open Space Subvention Act (see Government Code, § 16143), and may be identified as such in other documents. Most Non-Prime Land is in agricultural uses, such as grazing or non-irrigated crops. However, Non-Prime Land may also include other open space uses which are compatible with agriculture and consistent with local general plans.

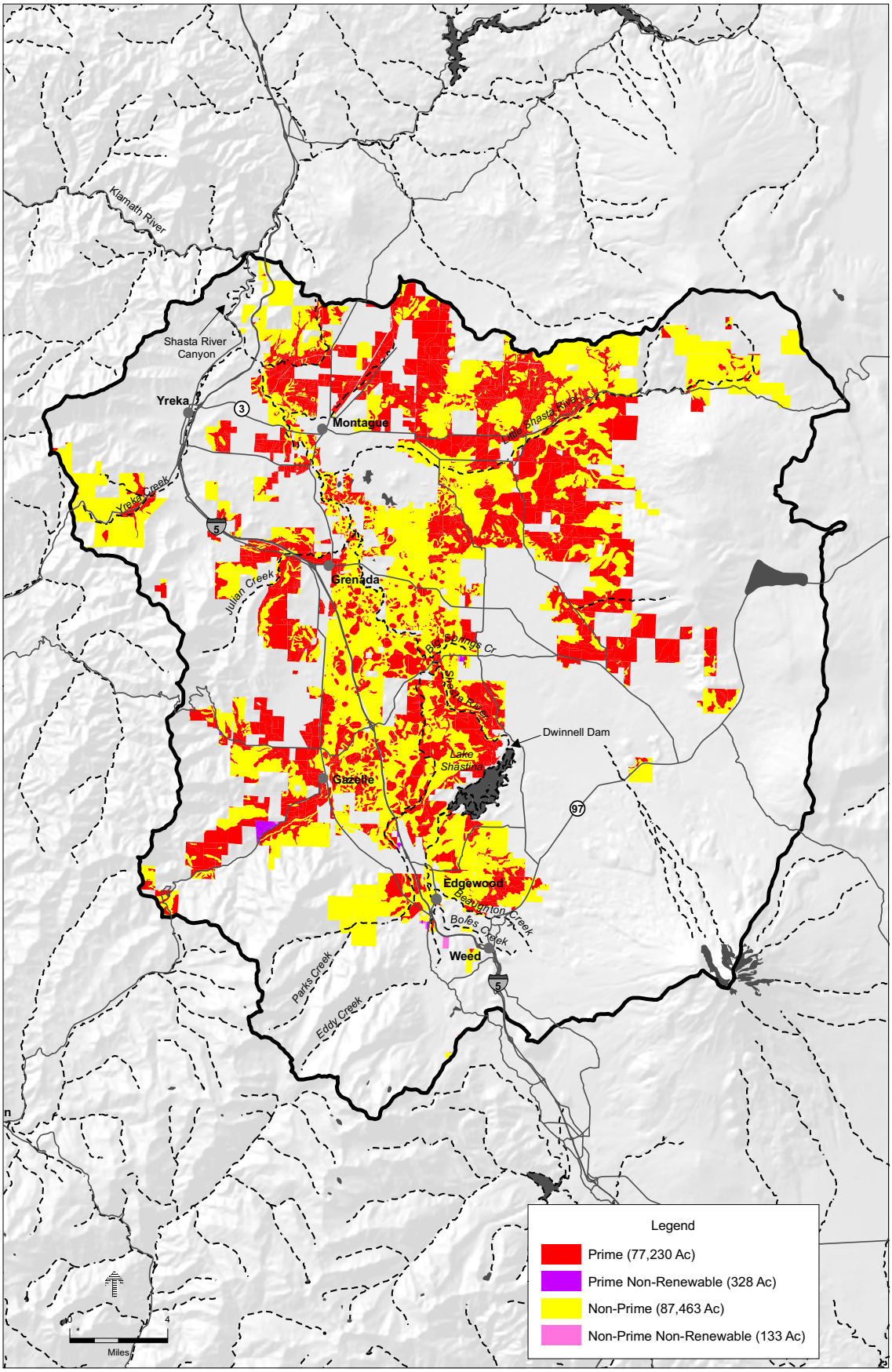
TABLE 3.1-5
FARMLAND UNDER WILLIAMSON ACT CONTRACT IN THE SHASTA RIVER WATERSHED

	Applicable Farmland Category			
	Prime	**Prime Non-Renewal**	**Non-Prime**	**Non-Prime Non-Renewal**
Total Acres Inventoried	77,230	328	87,463	133
		Total Acreage Under Contract		165,154
		Lost Acreage at end of 9-Year Contract		461

SOURCE: DOC (2004)

The vehicle for the Williamson Act agreements is a rolling-term, 10-year contract (i.e., unless either party files a "notice of nonrenewal," the contract is automatically renewed annually for an additional year). In return, restricted parcels are assessed for property tax purposes at a rate consistent with their actual use, rather than potential market value (DOC, 2006). If a "notice of nonrenewal" is filed by a landowner, a 9-year nonrenewal period commences. Over this period of time, the annual tax assessment gradually increases. At the end of the 9-year nonrenewal period, the contract is terminated. Currently less than 0.01 percent of the 165,154 acres under Williamson Act contracts in the Shasta River watershed has a notice of nonrenewal filed.

[11] Two or more parcels may be combined if they are contiguous or in common ownership.
[12] The FMMP and Williamson Act definitions of prime farmland differ. In summary, Williamson Act relates to enrollment and productivity criteria. FMMP pertains to soil characteristics. Williamson Act shows 33,360 acres as Prime, while the FMMP map shows 13,583 acres.



SOURCE: California Department of Conservation, 2003

Figure 3.1-4
Farmland Under Williamson Act Contract
in the Shasta River Watershed

Only the landowner can petition to cancel a Williamson Act contract. To approve a tentative contract cancellation, a county or city must make specific findings that are supported by substantial evidence. The existence of an opportunity for another use of the property is not sufficient reason for cancellation. In addition, the uneconomic character of an existing agricultural use shall not, by itself, be a sufficient reason to cancel a contract (DOC, 2004). If approved, the landowner must pay a cancellation fee equal to 12.5 percent of the unrestricted, current fair market valuation of the property. Legislation from 2004 (A.B. 1492) also allows a local government to levy a monetary penalty for a material breach of contract.[13] These cancellation stipulations serve as barriers to converting agricultural land to non-agricultural usage.

Agricultural Water Availability in Shasta Valley

Historically, most of the Shasta Valley was only usable in the spring when the soil moisture supported the growth of grass that could be used to feed horses, cattle and sheep. Upon summer's arrival, livestock were moved either to riparian areas or to the mountains where spring arrives later, summers are cooler, and precipitation and soil moisture could provide feed throughout the summer (Webb, 2007). Since available mountain pastures are extremely limited, there was high demand for irrigation system development.

As settlers in the Shasta Valley shifted from a mining economy to a ranching and farming economy, mining ditches were converted to irrigation ditches, and dozens of new ditches were dug (Webb, 2007). This process of irrigation development continued steadily until 1930, which allowed for crops and livestock to be successfully raised throughout the Shasta Valley.

The oldest ditches were used for flood irrigation and served those with the most senior water rights. Since then, efforts to expand irrigated agriculture have been on a smaller scale. More recent systems often utilize a pump to lift water out of the river and discharge it into a ditch at a higher elevation than the source of the water. Some sprinkler irrigation is used in the Shasta Valley, generally consisting of a buried mainline to distribute the water, and a movable sprinkler or series of sprinklers aboveground (i.e., hand line, wheel line, center pivot, or "big gun"). Drip systems are used for row crops or plants that can be watered on an individual basis. They are only used in small commercial orchards.

Irrigated Acreage in the Shasta River Watershed

Most of the irrigated permanent pasture and hay fields are located near the mainstem of the Shasta River or its tributaries with dryland grazing occurring on the more sloping farmland properties. Nearly all alfalfa grown in Siskiyou County is grown under irrigation (Thornhill, 2007) on farmland without high water tables. Dryland grain production to support livestock

[13] Government Code, § 51250(b) defines a material breach on land subject to a Williamson Act contract as a commercial, industrial or residential building(s), exceeding 2,500 square feet that is not permissible under the Williamson Act, contract, local uniform rules or ordinances. A.B. 1492 only applies to structure(s) that have been permitted and constructed after January 1, 2004. Under A.B. 1492, up to 25 percent of the unrestricted fair market value of land rendered incompatible by the breach, plus 25 percent of the value of any incompatible building and related improvements on the contracted land.

operations is generally undertaken by local farmers where the soil is tillable but irrigation is not possible. California Department of Water Resources (DWR) maintains a County-wide GIS database which tallies crop production by irrigation method and water source (see **Tables 3.1-6** through **3.1-8**). The data clarify where Agricultural Operators in the Shasta Valley are using groundwater versus surface water diversions (see **Figure 3.1-5**). This information is also relevant in understanding where future efficiency opportunities may take place (see **Figure 3.1-6**).

TABLE 3.1-6
IRRIGATED AGRICULTURAL ACREAGE – SHASTA RIVER WATERSHED (2000)

Crop	Acreage	Percentage
Grain	3,217.5	5.6 percent
Alfalfa Hay	7,795.7	13.6 percent
Pasture	40,376.3	70.5 percent
Orchard, Truck and Berry Crops	1,071.9	1.9 percent
Other	4,820.0	8.4 percent
Total	57,281.4	**100 percent**

Note: Areas classified as "Other" include urban landscapes (lawns, golf courses, and cemeteries) and idle lands.

SOURCE: DWR (2006)

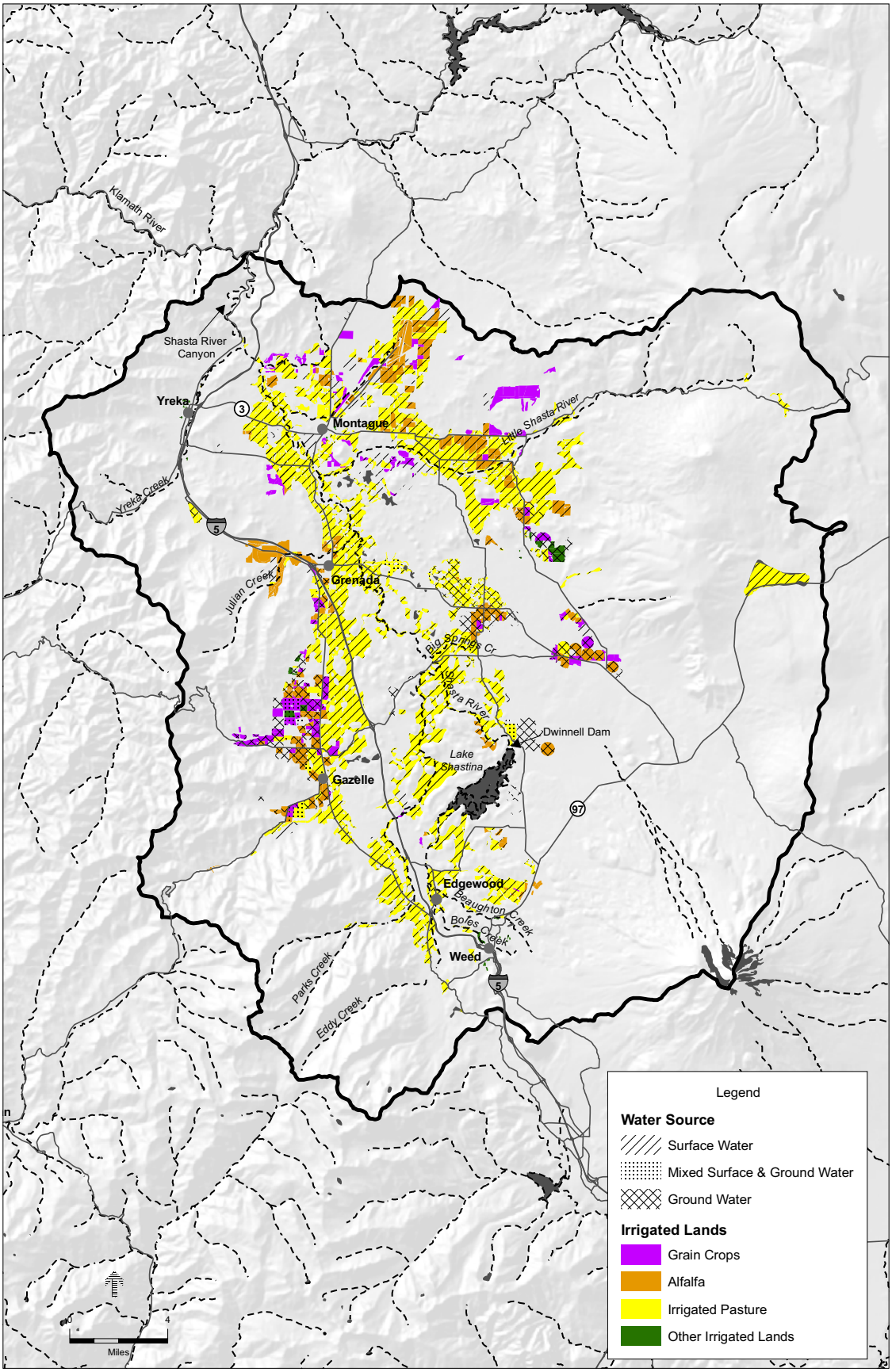
In 2000, 70.5 percent of Shasta Valley's total irrigated agricultural acreage was comprised of pasture grasses (DWR, 2006). Alfalfa hay was a distant second, comprising only 13.6 percent of total irrigated acreage. Grains, orchards, truck and berry crops, and other miscellaneous lands comprised the remaining 15.9 percent.

DWR also reported that in 2000, 79.9 percent of irrigated lands were supplied by surface water diversion (Table **3.1-7**). Groundwater-irrigated lands comprised only 17.9 percent. In the Shasta Valley upstream of County Road A12, water use is comprised of approximately one-half surface water and one-half groundwater; downstream of County Road A12, which covers the majority of the agricultural areas in the Shasta Valley, water use is comprised of approximately one-fifth groundwater while the remaining acreage is irrigated with surface water (SVRCD, 2005).

TABLE 3.1-7
AGRICULTURAL WATER USE BY IRRIGATION TYPE – SHASTA RIVER WATERSHED (2000)

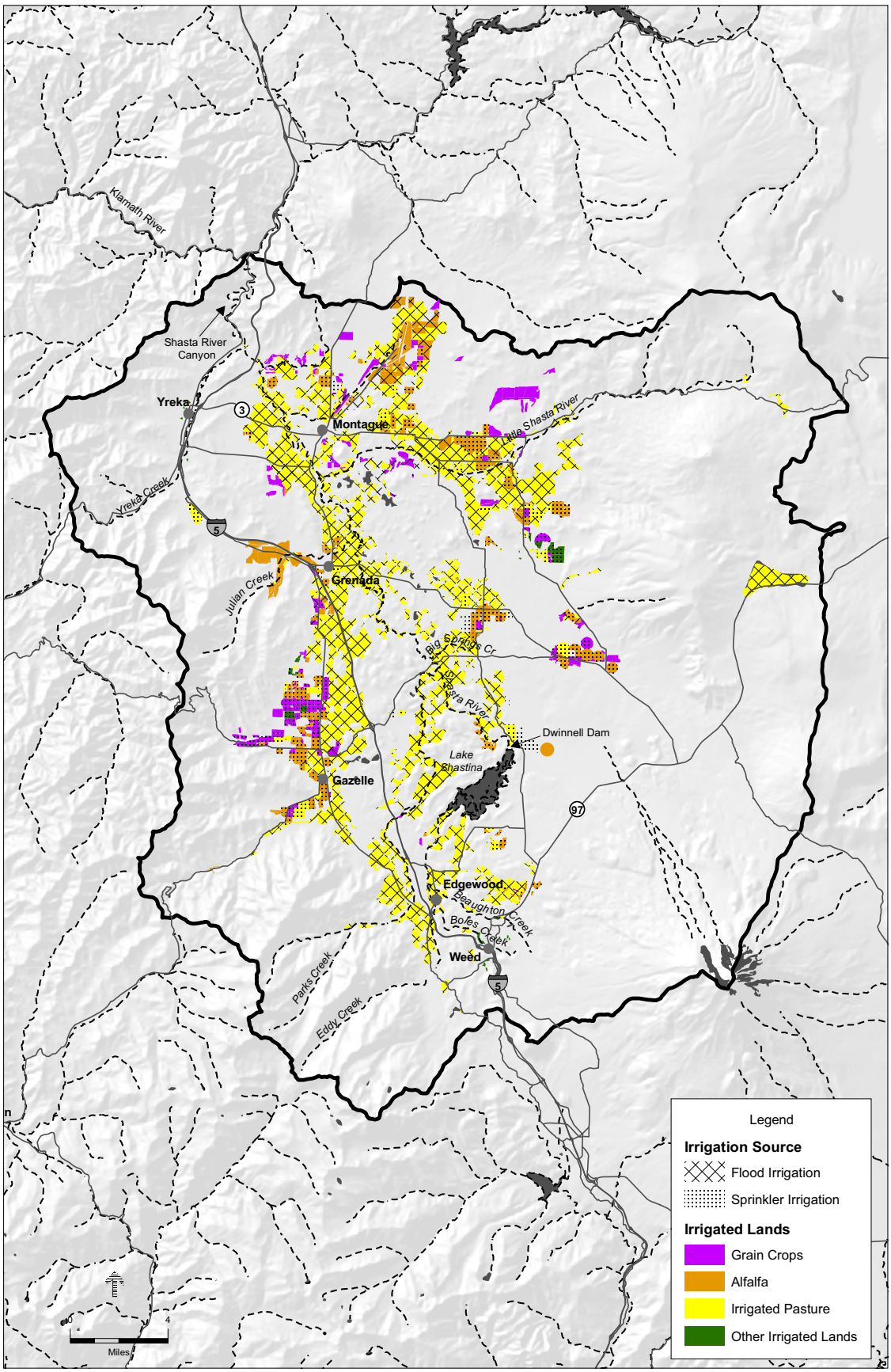
Water Type	Quantity (AF)	Percentage
Surface Water	45,781.7	79.9 percent
Groundwater	10,267.1	17.9 percent
Conjunctive Use	1,232.6	2.2 percent
Total	**57,281.4**	**100 percent**

SOURCE: DWR (2006)



SOURCE: California Department of Fish and Game, 2007

Figure 3.1-5
Water Source for Irrigated Crop Lands in Shasta River Watershed



SOURCE: California Department of Fish and Game, 2007

Figure 3.1-6
Irrigation Method for Irrigated Crop Lands in Shasta River Watershed

Looking at the two data sets together, DWR shows that in 2000, 96 percent of pasture grasses were flood irrigated by surface water diversions (**Table 3.1-8**). In contrast, grains and alfalfa were produced by a combination of flood and sprinkler irrigation from both groundwater and surface water diversions. For these two crop types, three out of every four acres were sprinkler irrigated. Orchard, truck and berry crops were also produced in the Shasta Valley using either sprinkler or drip irrigation systems (1,041 and 25 acres, respectively). Almost all of these three crops types were irrigated using groundwater, with only six percent being irrigated via a conjunctive diversion.

TABLE 3.1-8
CROP ACREAGES BY IRRIGATION METHOD AND WATER SOURCE – SHASTA RIVER WATERSHED (2000)

		Irrigation Method				Irrigation Water Source		
Crop	Total Irrigated Acreage	Acreage by Flood Irrigation	Acreage by Sprinkler Irrigation	Acreage by Drip Irrigation	Acreage by Unknown Irrigation Type	Acreage by Groundwater Irrigation	Acreage By Surface Water Diversion	Acreage By Surface and Groundwater
Grain	3,217	897	2,320	0	0	1,724	1,073	420
Alfalfa	7,797	1,896	5,836	0	65	3251	4481	65
Pasture	40,376	38,727	1,565	17	67	2,224.	37,570	582
Orchard, Truck and Berry Crops	1,072	0	1,041	25	6	999	0	73
Other	4,821	484	67	19	4251	2069	2659	93
Total	57,283	42,004	10,829	61	4,389	10,267	45,782	1,233

Note: Acreages have been rounded to the nearest whole number. Areas classified as "Other" include urban landscapes (lawns, golf courses, and cemeteries) and idle lands. These were likely irrigated with sprinkler systems.

SOURCE: DWR (2006)

Recent studies by University of California Cooperative Extension (UCCE) researchers demonstrate that there is significant potential for water conservation in irrigated pastures and to a lesser degree in alfalfa fields (Orloff, 1998, 2005). Large-scale field trials were conducted in the Intermountain Region and Sacramento Valley in 2003 through 2005 (for alfalfa only) and in the neighboring Scott Valley in 1995 and 1996 (for both alfalfa and irrigated pasture) to evaluate the effects of early curtailment of irrigation[14] (deficit irrigation) on yield, forage quality, stand persistence, and economics. The 1998 study concluded that irrigation of both alfalfa fields and irrigated pasture in the Scott Valley can cease prior to the end of September with minimal or no effect on production for the soil types studied; nor did irrigation cut-off prior to the end of September adversely affect the following year's production. Other findings were that spring and early summer alfalfa cuttings are often higher in yield and forage quality than mid-summer cuttings, and that yield per cutting normally trails off in the fall as temperature and day length

[14] Early curtailment of irrigation occurs when an irrigator ceases to irrigate land prior to the end of the "irrigation season".

decline (Orloff, 2005). It was also found that irrigation after the final alfalfa cutting was not necessary at the alfalfa sites studied (Orloff, 1998), but this finding may depend on soil type and the final cutting date (Orloff, 2007).

UCCE researchers also found that, in some cases, substantial water conservation on irrigated pasture as well as alfalfa could be achieved through careful monitoring of soil moisture and irrigating only when necessary, thus reducing the amount applied based on agronomic need (Orloff, 1998; Orloff, 2005).

Shasta Valley Water Irrigation Districts

Although many individual farmers own and operate individual irrigation systems within Shasta Valley, several large water user associations operate in the area. These water user associations operate and manage large water irrigation systems that share the costs of maintaining and operating the system, and provide an allocation mechanism for water distribution among local farmers. The principal water user associations within the Shasta Valley are the Grenada Irrigation District, the Shasta River Water Association, and the Montague Water Conservation District. In addition, the smaller Big Springs Irrigation District operates in the Shasta Valley. For more information regarding water supply and delivery, please refer to Chapter 3.7.

Regional Land Use Setting

The Shasta River watershed covers about 792 square miles. The Shasta River flows roughly northwest, from the northern flank of Mt. Shasta, through the Shasta Valley, then through a bedrock canyon to its confluence with the Klamath River. The main tributaries to the Shasta River are Parks Creek, Big Springs Creek, Yreka Creek, and the Little Shasta River. Dwinnell Dam and Lake Shastina are major features located in the Shasta Valley. Interstate 5 runs through the Shasta Valley and is the main north-south transportation corridor. State Routes 3, 263, and 99, and U.S. 97 also run through the watershed.

Historic Land Use

Four tribes, including the Iruaitsu band of Shasta, originally occupied the Shasta Valley, Scott Valley, and Klamath River region (Renfro, 1992). The Shastas, who fished the Klamath and Shasta Rivers and their tributaries, resided in the Program Area. The Klamath Lake tribe came to the Shasta Valley to trade goods (Yreka Semi-Weekly, 1863). In 1826, trappers working for the Hudson's Bay Company entered the area. In the following decades, trails were developed through the Siskiyou County area for cattle drives and general access between the Sacramento Valley and Oregon. These same trails were upgraded into roads after the discovery of gold in 1851. Gold was first discovered in the Yreka area. Within just a few months, mining camps developed along the Shasta River and along the neighboring Scott and Klamath Rivers. Gold and quartz mining was a predominant activity in the Shasta River watershed, especially in the Greenhorn drainage and Yreka Creek, from the 1850s to 1930s. In the decades following the Gold Rush, many settlers arrived in Siskiyou County and began farming and ranching. Beginning in the 1860s, growing fruit and raising cattle were popular activities (Yreka Semi-Weekly, 1863).

In 1887, the Southern Pacific Railway was completed through Shasta Valley, allowing lumber activities to flourish. Commercial logging, as a business, began in earnest after World War II and was accompanied by the widespread construction of logging roads and skid trails. Forested lands have been and continued to be primarily owned and managed by either the U.S. Forest Service (Klamath National Forest and Shasta-Trinity National Forest) or large private timber companies. Additional regional history information pertaining to historic land uses can be found in Chapter 3.5 (Cultural Resources).

Current Land Use

The Shasta River and its major tributaries total approximately 110 miles in length. Mount Shasta lies to the south and east and the Eddy Mountains to the west. Land uses include wilderness areas on Mount Shasta above 8,000 feet, timber harvest-related activities in the public and private lands generally above 4,000 feet, urban and suburban activities in pockets below approximately 4,000 feet, and agriculture below about 4,000 feet.

Timber harvests occur in the upper subwatersheds of the Shasta River on both public and private lands. There has been limited harvest on both the Klamath and Shasta-Trinity National Forests since implementation of the Northwest Forest Plan and subsequent revisions to each National Forest's Land and Resource Management Plan. In general, timber activity has been on the decline.

Although most agricultural areas are classified as permanent agriculture under the provisions of the Williamson Act, land along the Interstate 5 corridor has been transitioning from agricultural landscapes into rural residential uses, particularly near the cities of Weed and Yreka, and around Lake Shastina (SVRCD, 2005). This transition is occurring particularly among the smaller and lower hillside farm properties. The majority of Lake Shastina development is on existing residential lots (DePree, 2007).

Agricultural activities are limited in the Shasta Canyon area to three very small ranchettes at the upper end of the reach, and homestead-style gardening is located further downstream. Livestock is currently excluded from most of this reach. This area contains an active hydroelectric powerplant for personal use, a former FERC-licensed hydroelectric plant (not in operation), and a dam (from a third hydroelectric plant removed in 1948). This area also contains a fish counting station operated by the California Department of Fish and Game (CDFG), located near the confluence with the Klamath River.

3.1.2 Regulatory Setting

Local Regulations

The Program Area falls under the sole land use jurisdiction of Siskiyou County. The cities of Weed, Yreka, and Montague are not participants in the Program because, under the Program, only the Shasta Valley Resource Conservation District (SVRCD) will be implementing coho salmon (*Oncorhynchus kisutch*) restoration projects. Furthermore, because towns do not divert water for agricultural purposes, they also will not be participating as Agricultural Operators in the Program.

Siskiyou County General Plan

The Siskiyou County General Plan is the County's long-range planning document and consists of 11 elements: land use, circulation, housing, open space, conservation, safety, noise, energy, geothermal, scenic highway, and seismic. The General Plan Land Use Element was most recently adopted in 1980 and the Conservation Element was adopted in 1973.

The primary goal of the Land Use/Circulation Element of the Siskiyou County General Plan is to allow the physical environment to determine the appropriate future land use pattern that will develop in Siskiyou County. Its focus is for future development to occur in areas that are easiest to develop without entailing great public service costs, that have the least negative environmental effect, and that do not displace or endanger the County's critical natural resources (Siskiyou County, 1980).

The technique used for the development of the Land Use Element involved preparation of a series of overlay maps identifying development constraint areas. Constraints take the form of both natural, physical barriers or problems and those culturally imposed on the basis of resource protection. The combination of overlay maps provides a visual display of tones representing physical constraints in a particular geographic area in terms of the perceived effect of urban development. In identifying an absence of physical constraints, it also indicates where urban development may proceed without encountering known physical problems (Siskiyou County, 1980).

The Land Use Element has a number of objectives and policies that pertain to prime agricultural lands, including the following, which are applicable to the Program:

> *Policy 35.* The minimum parcel size on prime agricultural land shall be forty acres. The permitted density will not create erosion or sedimentation problems.[15]
>
> *Policy 36.* In commercial agricultural areas mapped as prime agricultural land but proven not to be prime agricultural land or land clearly committed to urbanization, but not within a city or service district sphere of influence, the minimum parcel size shall be 10-20 acres, depending on distance from major agricultural areas. The permitted density will not create erosion or sedimentation problems. A minimum parcel size of 20 acres is required in areas that are adjacent or in close proximity to major commercial agricultural operations.
>
> *Policy 37.* Only agricultural uses are permitted on prime agricultural land.
>
> *Policy 38.* In commercial agricultural areas mapped as prime agricultural land but proven not to be prime agricultural land, single family residential, light commercial, light industrial, open space, non-profit and non-organization in nature, recreational uses, commercial/recreational uses and public or quasi- public uses may be permitted. The permitted density will not create erosion or sedimentation problems.
>
> *Policy 39.* Proof that the mapped prime agricultural soils are in fact not prime can only be accomplished by providing the following information:

[15] The Covered Activities of this Program that meet the General Plan designation are evaluated in Chapter 3.2 for potential erosion and sedimentation impacts.

A. Submission of a soils test prepared by a California Certified Soil Scientist or,

B. Submission of well logs that specifically demonstrate there is not enough water available for irrigation purposes or,

C. A letter from the applicable irrigation district stating that they will not and cannot provide water or,

D. Any other factual, documented information that the area is not and has not been capable of supplying enough water for irrigation.

E. If an on-site inspection by the Planning Department reveals that the land is not prime agricultural land, the data itemized in A, B, C, and D above may not be required, i.e., obvious mapping errors.

F. Submission of past financial records or statements that the agricultural operation is not economically feasible are not in any way considered to be adequate proof that the land is not prime.

Policy 40. All development proposals within an irrigation district shall conform to all rules, regulations, and policies of the applicable irrigation district. The intent of this policy is not to permit district regulation of land use or density – it is intended to prohibit any interference of the district's functions, such as keeping checks and irrigation ditches free and clear of any disturbances.

The General Plan Conservation Element recognizes that prime soil is a "land resource [that is] not…readily renewable…and must be protected for its present and future value to the people of the county and state." The General Plan further states that "...safeguarding of agricultural lands is as essential as the protection afforded other types of land use." The following Conservation Element objective related to agricultural resources would be applicable to the Program:

Preserve and protect the prime and productive agricultural lands and the agricultural economy of Siskiyou County.

Siskiyou County Land Development Manual

In July 2006, Siskiyou County released a public review draft of their Land Development Manual, Improvement Standards and Specifications (County of Siskiyou, 2006). The document states the improvement standards and specification "are for the purpose of adopting minimum standards for the development of land in Siskiyou County to protect public health and safety, and to minimize or avoid environmental consequences. They include: design of improvements; type and use of materials; methods of and the preparation of plans for construction; and repair or alteration of roadways, alleys, concrete structures, drainage, sewerage, and water supply facilities." The document also states, "[I]t is not the intent of this manual to apply to agricultural uses that are permitted by right in the agricultural zoning classifications (e.g. plowing of fields and other uses incidental to agricultural operations)."

3.1.3 Impacts and Mitigation Measures

Significance Criteria

For the purpose of this Draft Environmental Impact Report (EIR) and consistent with Appendix G of the California Environmental Quality Act (CEQA) *Guidelines* and Government Code, § 53091 *et seq*., in the context of Land Use and Agriculture the Program would have a significant impact if it would be incompatible with existing land uses in the Program vicinity or if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Program (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; and/or
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

As proposed, the Program would not be incompatible with existing land uses and would not disrupt or divide an established community, because it does not cover or otherwise apply to existing or new structures, and all Covered Activities are within the realm of typical agricultural operations and restoration and monitoring practices within the existing agricultural landscape. For similar reasons, the Program would not conflict with any applicable land use plan, policy, or regulation because the activities will take place on lands designated for agricultural purposes. Given that there are no applicable habitat conservation plans or natural community conservation plans in the Shasta River watershed, this criterion is not applicable.

The Program would also have a significant impact if it would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use;
- Conflict with existing zoning for agricultural use or a Williamson Act contract;
- Involve other changes that could result in conversion of farmland to nonagricultural use.

Impact Analysis

Impact 3.1-1: The Program could result in the conversion of agricultural land within the Shasta River watershed to non-agricultural uses (Less than Significant).

Under the terms of the Incidental Take Permit (ITP) (Article XIII.E.1.d), Agricultural Operators who are issued sub-permits will be responsible for costs incurred to implement avoidance or minimization measures required under their sub-permits, and SVRCD will be responsible for any costs incurred to implement mitigation and monitoring measures required under the ITP. Avoidance and minimization measures that may result in costs to sub-permittees include

installation and maintenance of fish screens, riparian fencing, and bioengineered bank stabilization; improvements to water diversion structures, reductions in irrigation tailwater, and the implementation of other water efficiency and water management improvement measures required under Article XIII.E.2 of the ITP. Increased costs for Agricultural Operators could result in reduced net income for agricultural operations.

While such a reduction in income would constitute an economic impact on Agricultural Operators, it would not in itself constitute a significant effect on the environment for which mitigation would be required to reduce or avoid that effect. Under CEQA, a "significant effect" is limited to adverse changes in *physical* conditions within the area the project affects. However, the reductions in income that could result from participating in the Program could indirectly result in adverse changes to the existing physical conditions in the Program Area. Specifically, a reduction in the financial viability of existing agricultural operations in the Program Area could lead to increased pressure to convert agricultural land to non-agricultural uses. However, whether this would occur and, if so, the number of instances in which this would occur and what the resulting non-agricultural uses would be are speculative. Nonetheless, it is unlikely that the Program would reduce the financial viability of existing agricultural operations to such a level that agricultural lands would be converted to non-agricultural uses for the reasons discussed below.

The Program will Reduce the Costs of Compliance with Fish and Game Code, § 1600 *et seq.* and CESA. Because coho salmon in the Program Area are now listed as a threatened species under CESA, some routine agricultural activities may require incidental take authorization from CDFG in order to comply with CESA. The Program provides an option for Agricultural Operators who want to obtain authorization for take of coho salmon that might occur during the performance of routine agricultural activities, including, for example, the diversion of water. The Program provides Agricultural Operators a means to comply with CESA by obtaining a sub-permit and to comply with Fish and Game Code, § 1600 *et seq.* by obtaining a SAA, at much less expense and in much less time when compared to obtaining incidental take authorization or a SAA through the standard, or individual, permit processes, thereby reducing Agricultural Operators' regulatory compliance costs. However, SVRCD will require a permit fee from Agricultural Operators participating in the Program to offset Program administrative and monitoring costs, which will result in some financial burden on Agricultural Operators.

Water Trust. The ITP proposed under the Program would require SVRCD to establish the Shasta River Water Trust for acquisition of water (through purchase or lease) that would otherwise be diverted for agricultural use (ITP Article XIII.E.2(a)(i)). Water obtained through the Water Trust would be left instream to benefit fish and other aquatic species. The Water Trust will provide a market mechanism for Agricultural Operators who voluntarily reduce their surface water diversions to be compensated for at least a portion of any reduced income or increased cost that might result from participating in the Program.

Cost Reductions through Water Efficiency Measures. The ITP proposed under the Program would require SVRCD to improve existing instream flows within critical reaches of the Shasta River and its tributaries and at critical life stages of coho salmon by installing water efficiency

improvement projects and water management improvement projects on sub-permittees' properties and by changing or adding points of diversion to keep flows instream to point of use (ITP Article XIII.E.2(a)(ii)). Efficiency measures would result in reduction of some costs, such as pumping costs, of some agricultural operations, while some measures, such as lining ditches, could allow a reduction in stream diversion volumes without affecting the extent and productivity of agricultural operations. As discussed in the Setting section above, research conducted by UCCE in the neighboring Scott Valley demonstrates that water conservation can be achieved without loss of production on both irrigated pasture and alfalfa fields, through soil moisture monitoring to adjust irrigation to agronomic rates, and through early curtailment of irrigation (prior to the end of September). More widespread adoption of these water conservation methods by Agricultural Operators could result in decreased water use without decreased production, and cost savings could be achieved in some cases through reduced pumping costs and reduced labor costs. The UCCE is available as a technical resource to advise on practices that include early curtailment of irrigation for alfalfa fields and use of soil moisture monitors. Water efficiency projects could, however, require a substantial investment. The potential financial impact of water efficiency projects on an individual Agricultural Operator will likely be directly related to the extent to which they must contribute financially to their construction or installation, as discussed below, and the cost savings achieved.

Program Funding. Some of the activities and projects undertaken as part of the Program would be eligible for a variety of public and private financing programs, including grants, cost-shares, and private loans, which would offset some or all of the costs associated with participation in the Program. CDFG and SVRCD anticipate that funding will be available through CDFG and other agencies, including the Natural Resources Conservation Service (NRCS), which would reduce the financial burden of Program participation on Agricultural Operators.

Restrictions on Land Use Changes. Even if Agricultural Operators were to suffer a decline in the financial viability of their agricultural operations as a result of participation in the Program, specific and general restrictions on land use changes would serve as an obstacle to the conversion of agricultural land to non-agricultural uses. As discussed in the Setting section above, non-renewal of a Williamson Act contract is costly and cancellation is difficult. The Siskiyou County General Plan has stringent policies and mechanisms that discourage conversion of agricultural land to non-agricultural uses. Zoning and land use changes would be subject to CEQA review by the County. Such laws, regulations, and policies represent substantial hurdles to land use conversion.

The conversion of agricultural land within the Shasta River Watershed to non-agricultural uses is an important concern to many parties. This Program was designed by SVRCD and CDFG with extensive consideration to alleviating costs associated with incidental take authorization and Fish and Game Code, § 1602 requirements, and includes as a SVRCD objective assisting Agricultural Operators participating in the Program in meeting the requirements of CESA and Fish and Game Code, § 1602.

Provided that adequate Program funding is available through grants and other cost-sharing programs, it is likely the Program will result in minimal net cost to participating Agricultural Operators. Furthermore, it is expected that Program participation will provide security in the form of incidental take authorization and SAAs that will reduce the major financial risk facing those agricultural operations that otherwise may face liability for future enforcement and compliance requirements. Given that Agricultural Operators will have to comply with CESA and Fish and Game Code, § 1602 with or without the Program, and the reduced cost and other benefits associated with participating in the Program, the potential for the Program to result in conversion of agricultural land is considered less than significant.

Based on the above, while it is conceivable that the Program could indirectly result in the conversion of agricultural land in the Program Area to non-agricultural uses that would not occur if the Program were not implemented, for the reasons stated above, the effect, if any, is expected to be minor, and therefore less than significant.

Mitigation Measures

This potential impact was determined to be less than significant. No mitigation measures required.

References

American Society of Farm Managers and Rural Appraisers – California Chapter (ASFMRA), *2005 Trends in Agricultural Land and Leases Values*, www.calasfmra.com/db_trends/2005%20Trends%20Report.pdf, accessed December 29, 2006.

California State Association of Counties (CSAC), Percentage of County Acreage in Williamson Act (2006), www.csac.counties.org/legislation/williamson_act/williamson_act_County_acreage.pdf, accessed January 3, 2007.

Center for Economic Development (CED), CSU, Chico Research Foundation, 2006 Siskiyou County Economic and Demographic Profile Series, 2006.

DePree, Jim, Natural Resource Policy Specialist, Siskiyou County, telephone communication, January 10, 2007

Department of Conservation (DOC) – See State of California.

Department of Transportation (Caltrans) – See State of California.

Department of Water Resources (DWR) – See State of California.

Diehm, John, "County's new home starts show slower growth rate in '06," *Herald Press News*, January 10, 2007.

Employment Development Department (EDD) – See State of California.

Herman, G., Senior Deputy Agricultural Commissioner, Siskiyou County Department of Agriculture, telephone communication, January 16, 2007.

Orloff, Steve B., *Final Report Assessment of Fall Agriculture Irrigation Water Conservation Potential in the Scott Valley*, prepared for SQRCD, 1998.

Orloff, S., Putnam, Hanson, and Carlson, "Implications of Deficit Irrigation Management of Alfalfa", In Proceedings: *California Alfalfa and Forage Symposium*, 12-14 December, 2005, Visalia, CA, UC Cooperative Extension, Agronomy Research and Extension Center, Plant Sciences Department, University of California, Davis 95616, 2005.

Orloff, S., Farm Advisor, U.C. Cooperative Extension Siskiyou County, telephone communication, January 3 and 4, and March 18, 2007.

Poole and Wheelock, "Too Few Working, Too Many Retired" *The Regional Economist*, April 2005, accessed online at www.stlouisfed.org/publications/re/2005/b/pages/population.html.

Renfro, E., *The Shasta Indians of California and Their Neighbors*, Naturegraph Publishers, Happy Camp CA, 1992.

SVRCD, *Master Incidental Take Permit Application for Coho Salmon (Oncorhynchus kisutch) - Appendix III*, Submitted to CDFG March 29, 2005.

Scott River Watershed Council (SRWC), *Initial Phase of the Scott River Watershed Council Strategic Action Plan (SAP)* – October 2005 update, 2005.

Siskiyou County, "Land Use and Circulation Element", *Siskiyou County General Plan*, 1980.

Siskiyou County, Public Review Draft, *Land Development Manual, Improvement Standards and Specifications*, Second Edition, www.co.siskiyou.ca.us/planning/pdf_files/LDM_APPEND.pdf, July 2006.

Siskiyou County Department of Agriculture, *2005 Crop & Livestock Report*, 2006.

Siskiyou County Department of Agriculture, *2006 Crop & Livestock Report*, 2007.

Siskiyou County Economic Development Council (SCEDC), Shasta Valley Enterprise Zone, www.siskiyoucounty.org/map-room.aspx, accessed December 29th, 2006.

Siskiyou County Economic Development Council (SCEDC), Siskiyou County Thumbnail, www.siskiyoucounty.org, accessed January 4, 2007.

State of California, Department of Conservation, Important Farmland Act Data, Farmland Mapping and Monitoring Program, 2006.

State of California, Department of Conservation, Division of Land Resource Protection, Table A-35, Siskiyou County, 2002-2004 Land Use Conversion, 2004.

State of California, Department of Transportation (Caltrans), Long Term Socioeconomic Forecast by County, www.dot.ca.gov/, accessed December 28, 2006.

State of California, Department of Water Resources (DWR), *Siskiyou County Land Use GIS database*, 2006.

State of California, Employment Development Department (EDD), Labor Market Information Division, Siskiyou County Snapshot, www.calmis.ca.gov/file/cosnaps/siskiSnap.pdf, accessed December 28, 2006.

Thornhill, W., Assistant Agricultural Commissioner, Siskiyou County Department of Agriculture, telephone communication, January 4, 2007.

U.S. Census Bureau, *Age Data*, www.census.gov/population/www/socdemo/age.html accessed April 11, 2007.

U.S. Census Bureau, State & County Quick Facts – Siskiyou County, quickfacts.census.gov/qfd/states/06/06093.html, accessed December 28, 2006.

U.S. Census Bureau, Small Area Income and Poverty Estimates – Siskiyou County, www.census.gov, accessed January 4th, 2007.

U.S. Department of Agriculture (USDA), *2002 Census of Agriculture – County Profile*, 2002.

U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Accounts, www.bea.gov/regional/reis/default.cfm?catable=CA25, accessed September 10, 2008.

Webb, Dave, "Water Usage in the Shasta Valley", Included as part of the *Final Report to the US Fish and Wildlife Service on Cooperative Agreement 14-48-11333-00-G012*, Project Number 2000-PC-10, 2001.

Webb, David, Shasta Valley Resource Conservation District, Yreka, CA, personal email communication on January 8, and August 1, 2007.

Yreka Semi-Weekly Journal, April 15, 1863.